



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-2-C5  
 UNIQUE ID NUMBER: 1CM003  
 COMBUSTOR:  
 ENGINE TYPE: TF

BYPASS RATIO: 6.0  
 PRESSURE RATIO ( $\pi_{00}$ ): 23.5  
 RATED THRUST ( $F_{00}$ ) (kN): 97.9

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	6.0	82.5	46.3	7.7
AS % OF ORIGINAL LIMIT	30.4	69.9	53.2	32.4
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			66.5	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			81.7	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			92.9	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			113.0	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
 - DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	0.985	0.04	0.90	18.50	6.0
CLIMB OUT	85	2.2	0.819	0.05	0.90	16.00	3.0
APPROACH	30	4.0	0.311	0.08	4.20	8.20	2.6
IDLE	7	26.0	0.128	1.83	30.70	4.00	2.2
LTO TOTAL FUEL (kg) or EMISSIONS (g)			424	378	6578	3906	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				3.9	67.2	39.9	6.0
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				0.4	4.1	0.6	0.8
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				3.4-4.15	63.5-71.7	39.4-40.5	5.4-6.9

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	96-97.5
TEMPERATURE (K)	279-286
ABS HUMIDITY (kg/kg)	0.002-0.009

### FUEL

SPEC	Jet A
H/C	1.93
AROM (%)	16

MANUFACTURER: CFM International  
 TEST ORGANIZATION: CFM56 Evaluation Engineering  
 TEST LOCATION: Peebles Site IVD  
 TEST DATES: 11/11/1983-14/11/1983

### REMARKS

1. Ref GE Report R83AEB631.
2. Engine S/N 692441.

Compliance with Fuel Venting requirements: -

('x' if complies, 'PR' if pre-regulation, '-' if information is not available)